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L1: Entry 1 of 1

File: USPT

Dec 31, 2002

US-PAT-NO: 6500660

DOCUMENT-IDENTIFIER: US 6500660 B1

TITLE: Chimeric target molecules having a regulatable activity

DATE-ISSUED: December 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fastrez; Jacques	Perwez			BE

US-CL-CURRENT: 435/231; 435/252.3, 435/320.1, 435/442, 435/69.1, 435/69.7, 435/7.1, 530/300, 530/350, 536/23.2, 536/23.7

CLAIMS:

What is claimed:

1. A chimeric .beta.-lactamase enzyme comprising .beta.-lactamase and a mimetope inserted into or inserted by replacing at least one amino acid thereof, wherein said chimeric .beta.-lactamase has an enzymatic activity which is modulated upon the binding of a binding molecule to said mimetope.
2. A chimeric .beta.-lactamase as recited in claim 1 wherein the binding molecule binds to an active conformation of the chimeric .beta.-lactamase.
3. A chimeric .beta.-lactamase as recited in claim 1, wherein the binding molecule binds to an inactive conformation of the chimeric .beta.-lactamases.
4. A chimeric .beta.-lactamase as recited in claim 1, wherein the binding molecule is an antibody.
5. A chimeric .beta.-lactamase as recited in claim 1, wherein the conformation of the chimeric .beta.-lactamase is shifted from an active form to an inactive form upon binding of the binding molecule to the chimeric .beta.-lactamase.
6. A chimeric .beta.-lactamase as recited in claim 1, wherein the enzymatic activity of the chimeric .beta.-lactamase is inactivated upon binding of the binding molecule to the chimeric .beta.-lactamase.
7. A chimeric .beta.-lactamase as recited in claim 1, wherein the enzymatic activity of the chimeric .beta.-lactamase is activated upon binding of the binding molecule to the chimeric .beta.-lactamase.
8. A chimeric .beta.-lactamase as recited in claim 1, wherein the sequence of the mimetope is inserted into a sequence of .beta.-lactamase which is remote from the active site thereof.
9. A chimeric .beta.-lactamase as recited in claim 1, wherein the mimetope comprises 10 or less amino acids.

10. A chimeric .beta.-lactamase as recited in claim 1, wherein the mimetope is a random peptides sequence.
11. A chimeric .beta.-lactamase as recited in claim 1, wherein the mimetope is any one of a sequence identified from SEQ ID Nos. 1-78.
12. A chimeric .beta.-lactamase enzyme comprising .beta.-lactamase and an antigenic mimetope inserted into or inserted by replacing at least one amino acid thereof, wherein said chimeric .beta.-lactamase has an enzymatic activity being modulated upon the binding of an antibody to said antigenic mimetope.

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Fastrez; Jacques	Perwez			BE

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Universite Catholique de Louvain	Louvain-la Neuve			BE		03

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US-CL-CURRENT: 435/231; 435/252.3, 435/320.1, 435/442, 435/69.1, 435/69.7, 435/7.1, 530/300, 530/350, 536/23.2, 536/23.7

FIELD-OF-SEARCH: 435/231, 435/69.1, 435/69.7, 435/252.3, 435/320.1, 435/442, 435/7.1, 536/23.2, 536/23.7, 530/300, 530/350

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>5580723</u>	December 1996	Wells et al.	435/6

OTHER PUBLICATIONS

Rodrigues et al. Cancer Research. 55 : 63-70. 1995, Jan. 1, 1995.

ART-UNIT: 1652

PRIMARY-EXAMINER: Saidha; Tekchand

ABSTRACT:

The present invention relates to a chimeric target molecule having an activity which

can be regulated or modulated by a binding molecule. The invention also relates to methods of using the chimeric target molecule to detect the presence and/or amount of a desired analyte in a sample. The analyte is a binding molecule, or a competitor of a binding molecule, which binding molecule, upon binding to the target molecule, alters the activity of the target molecule in a detectable way. In one aspect of the invention, a binding molecule binds to the chimeric molecule, inactivating it. An analyte in a test sample competes and/or displaces the binding molecule from the chimera, reactivating it. The reappearance of activity in the presence of the analyte indicates its existence in the test sample existence and amount. Another aspect of the invention relates to a binding molecule which regulates a chimeric target molecule and methods of producing it.

12 Claims, 6 Drawing figures